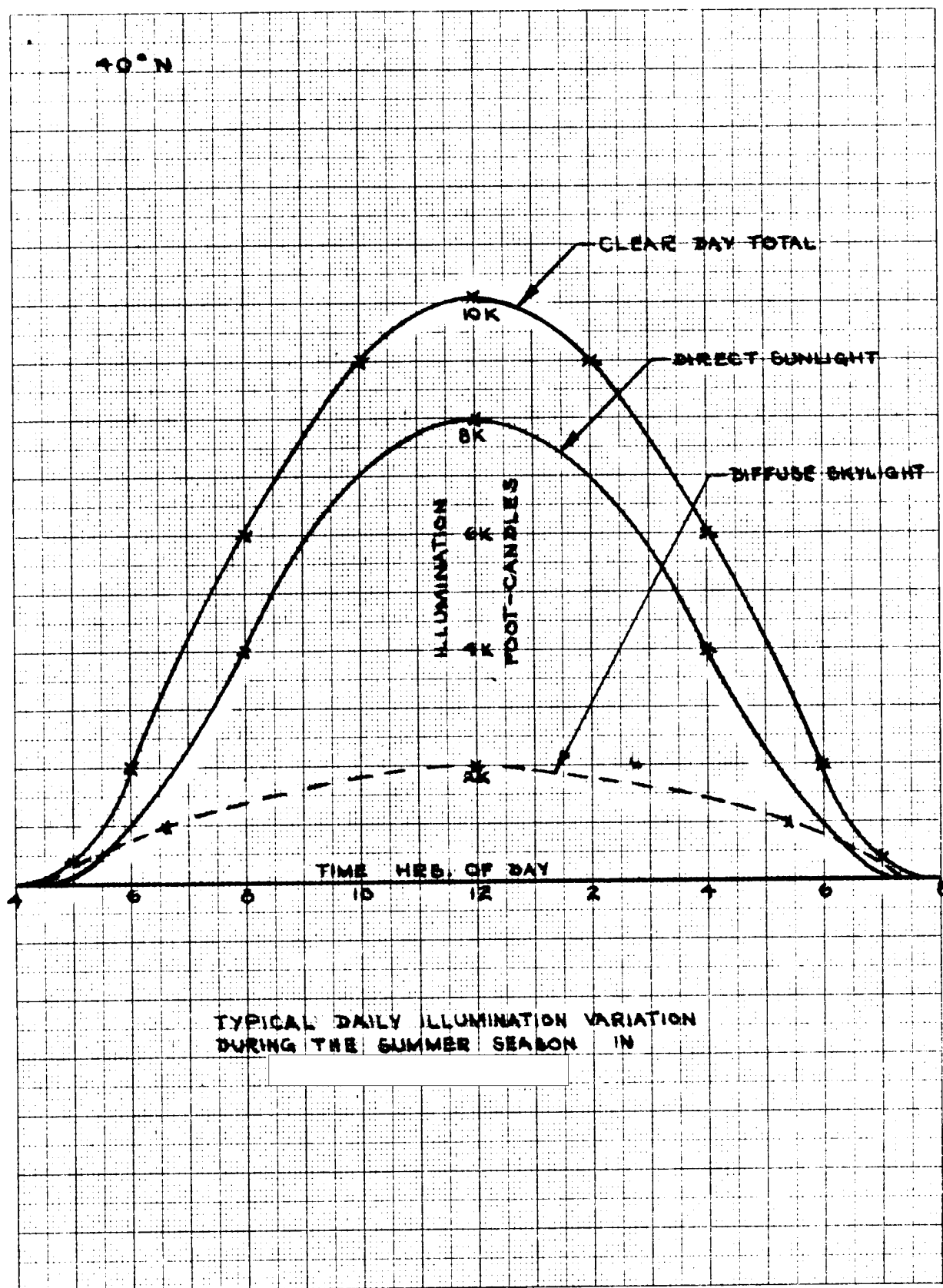
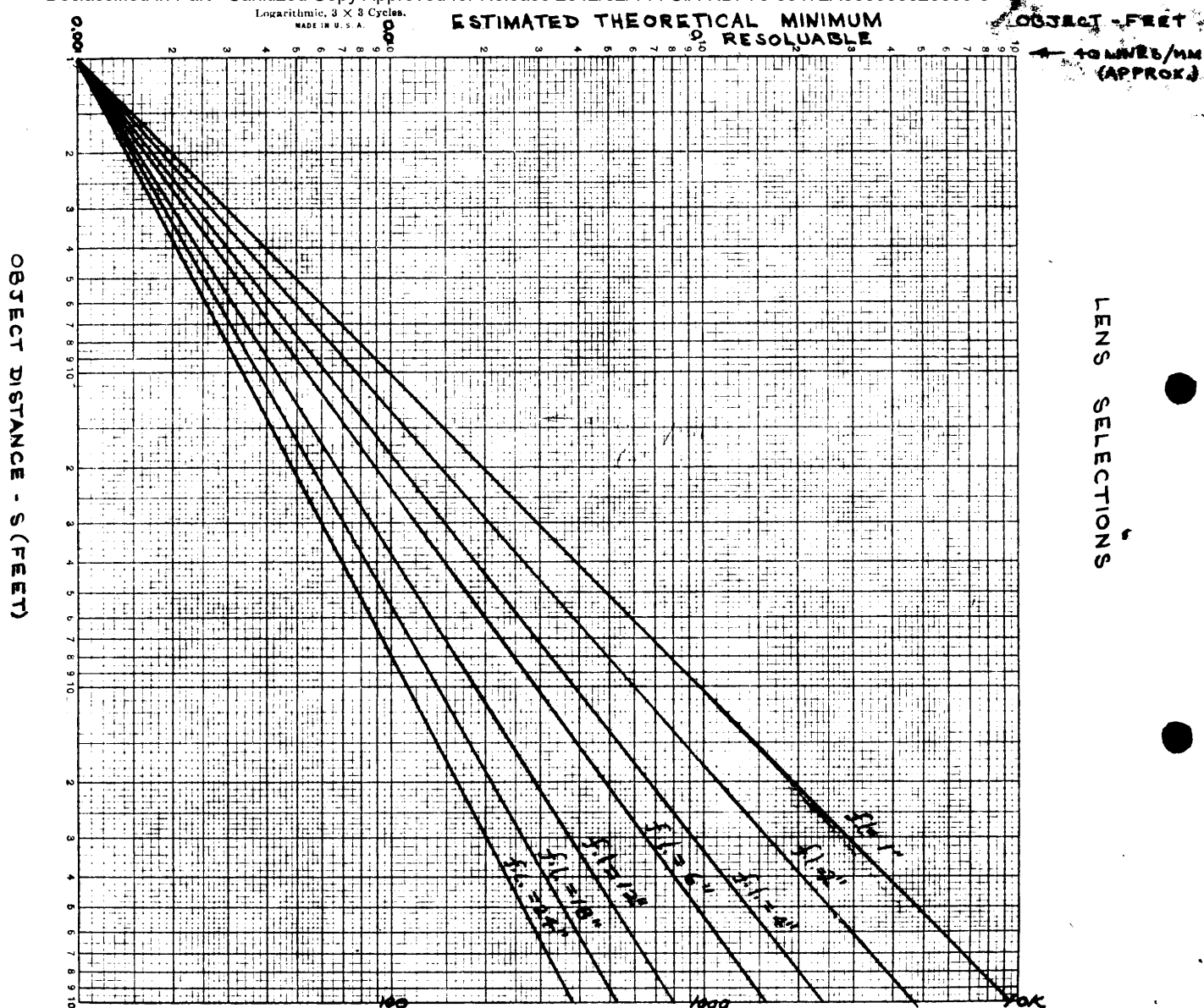


GENERAL EVALUATION OF EXPOSURE CONTROL SYSTEMS

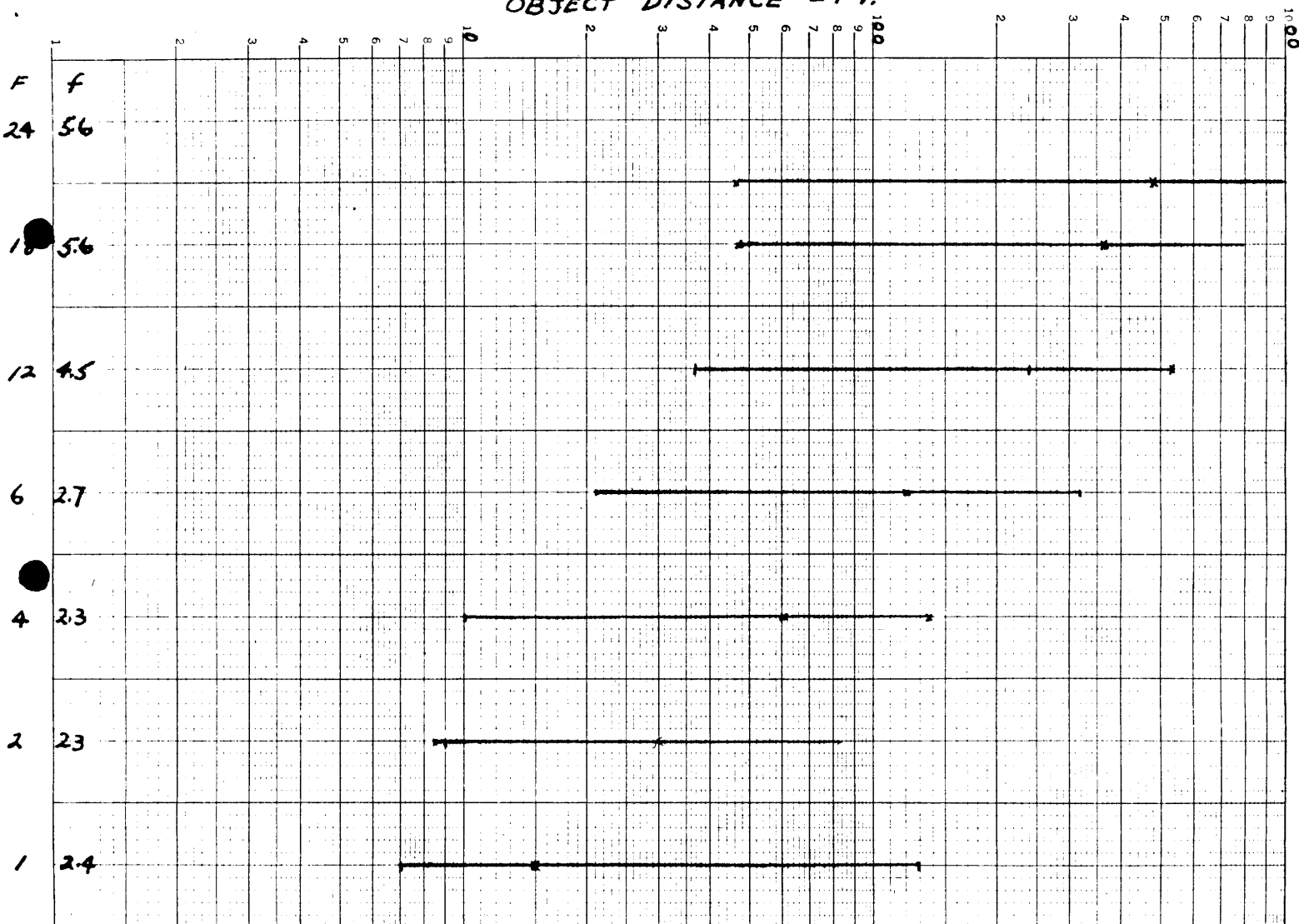
	<u>IRIS CONTROL</u>		<u>TIME CONTROL</u>		<u>COMBINED CONTROL</u>	
	<u>PRO</u>	<u>CON</u>	<u>PRO</u>	<u>CON</u>	<u>PRO</u>	<u>CON</u>
	HIGH STATIC RESOLUTION GREATER DEPTH OF FIELD	GREATER POWER CONSUMPTION LOW SYSTEM RELIABILITY HIGH MECHANICAL COMPLEXITY LESS DYNAMIC RANGE LOW DYNAMIC RESOLUTION	HIGH SYSTEM RELIABILITY HIGH SYSTEM RESOLUTION HIGH DYNAMIC RANGE QUICK DELIVERY	LESS DEPTH OF FIELD LESS STATIC RESOLUTION	MAX. DYNAMIC RANGE CAPABILITY MAX. OPERATING TIME MAX. CONTRAST MAX. RESOLUTION	HIGH COMPLEXITY LESS EQUIPMENT RELIABILITY HIGHER COST LONGER DESIGN & PRODUCTION TIME
<u>CONTINUOUS</u>	MAX. CONTRAST MAX. RESOLUTION SIMPLICITY RELIABILITY	MORE POWER REQUIREMENT MORE COMPLEXITY LESS INFORMATION CONTENT	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>STEP</u>						
<u>OPEN LOOP</u>	SIMPLICITY	INACCURACY LESS RELIABLE	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>CLOSE LOOP</u>	MORE RELIABILITY	MORE COMPLEXITY	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>SINGLE LENS</u>	SIMPLICITY RELIABILITY LOW COST MORE COMPACT	WORK WITH SMALL SPACE	SAME AS IRIS CONTROL		SAME AS IRIS CONTROL	
<u>DUAL LENS</u>	MORE WORKING SPACE BETTER APPROXIMATION	LESS RELIABLE MORE MECHANICAL COMPLEXITY				





3 CYCLES X 70 DIVISIONS

OBJECT DISTANCE - FT.



BY _____ DATE _____
 CHKD. BY _____ DATE _____
 SUBJECT _____
 SHEET NO. _____ OF _____
 JOB NO. _____

F.L.

1"

2"

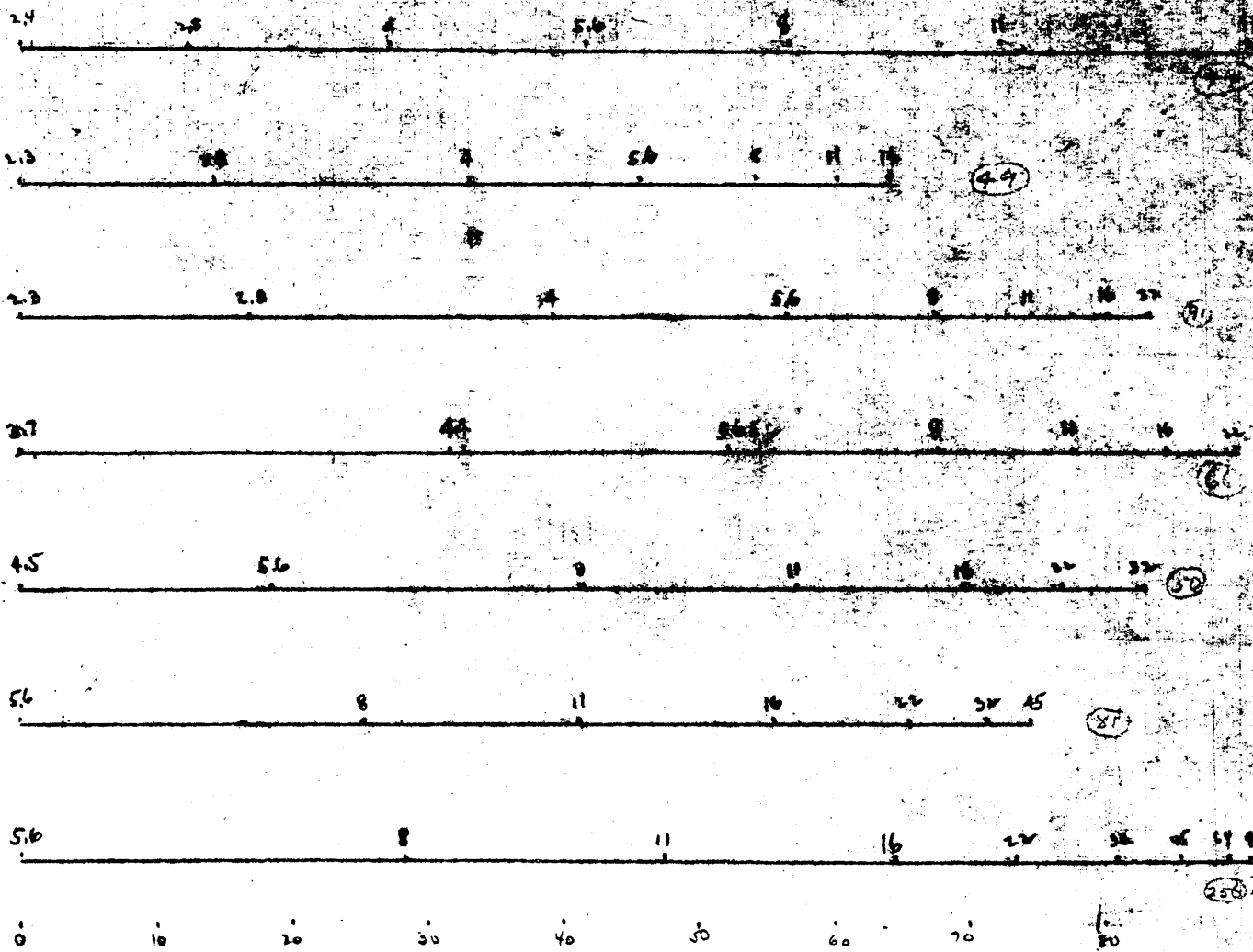
4"

6"

12"

18"

24"



CHKD. BY DATE

JOB NO.

Depth of Field Calculation for CD-182 Lens

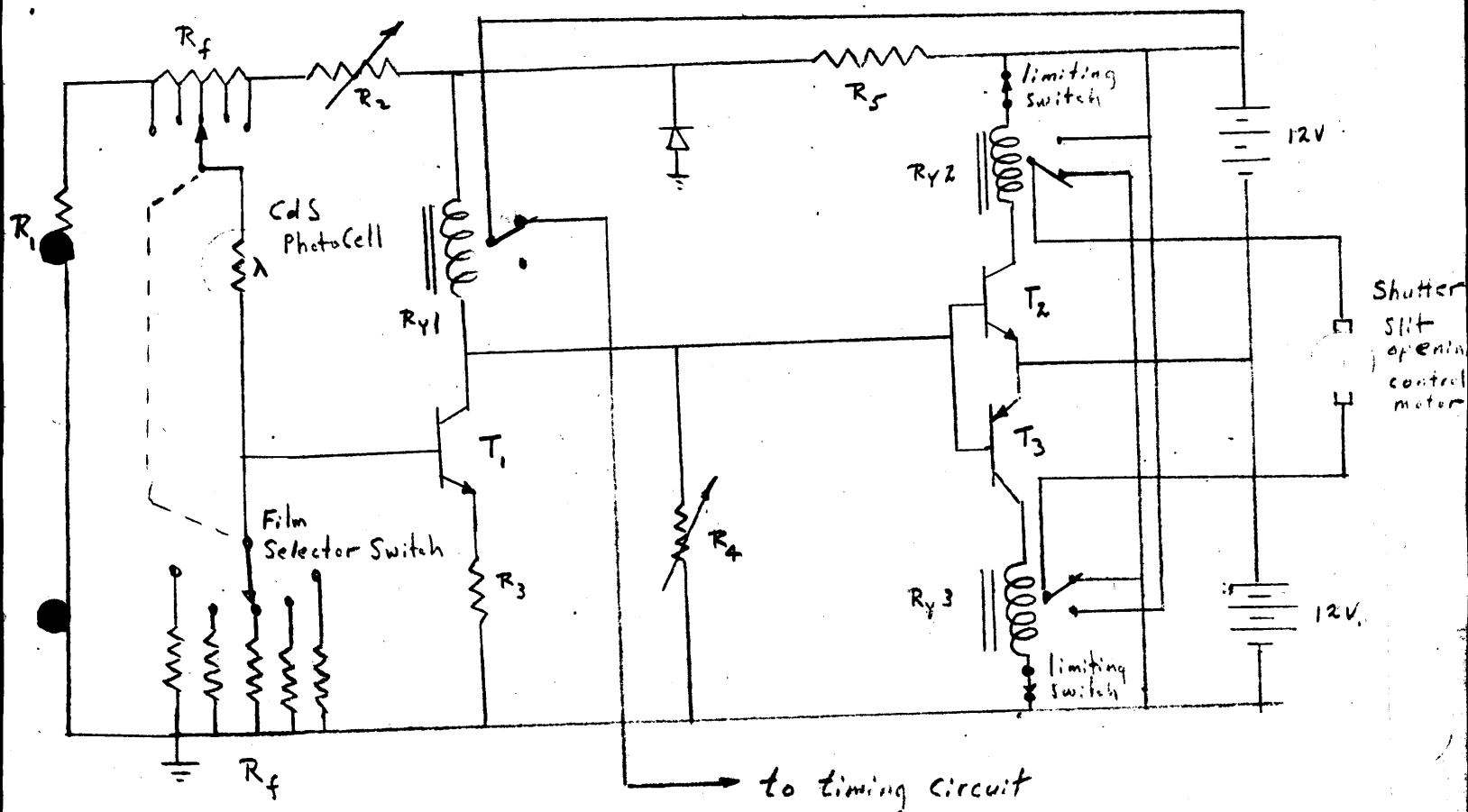
$$D = \text{Depth of field} = D_N + D_F$$

$$D_N = \frac{HS}{H+S} \quad D_F = \frac{HS}{H-S}$$

$$H = \text{hyperfocal distance} = \frac{F^2}{fC} \times 1.083$$

$$f = C = 0.002 \quad = 41.5 F^2 / f$$

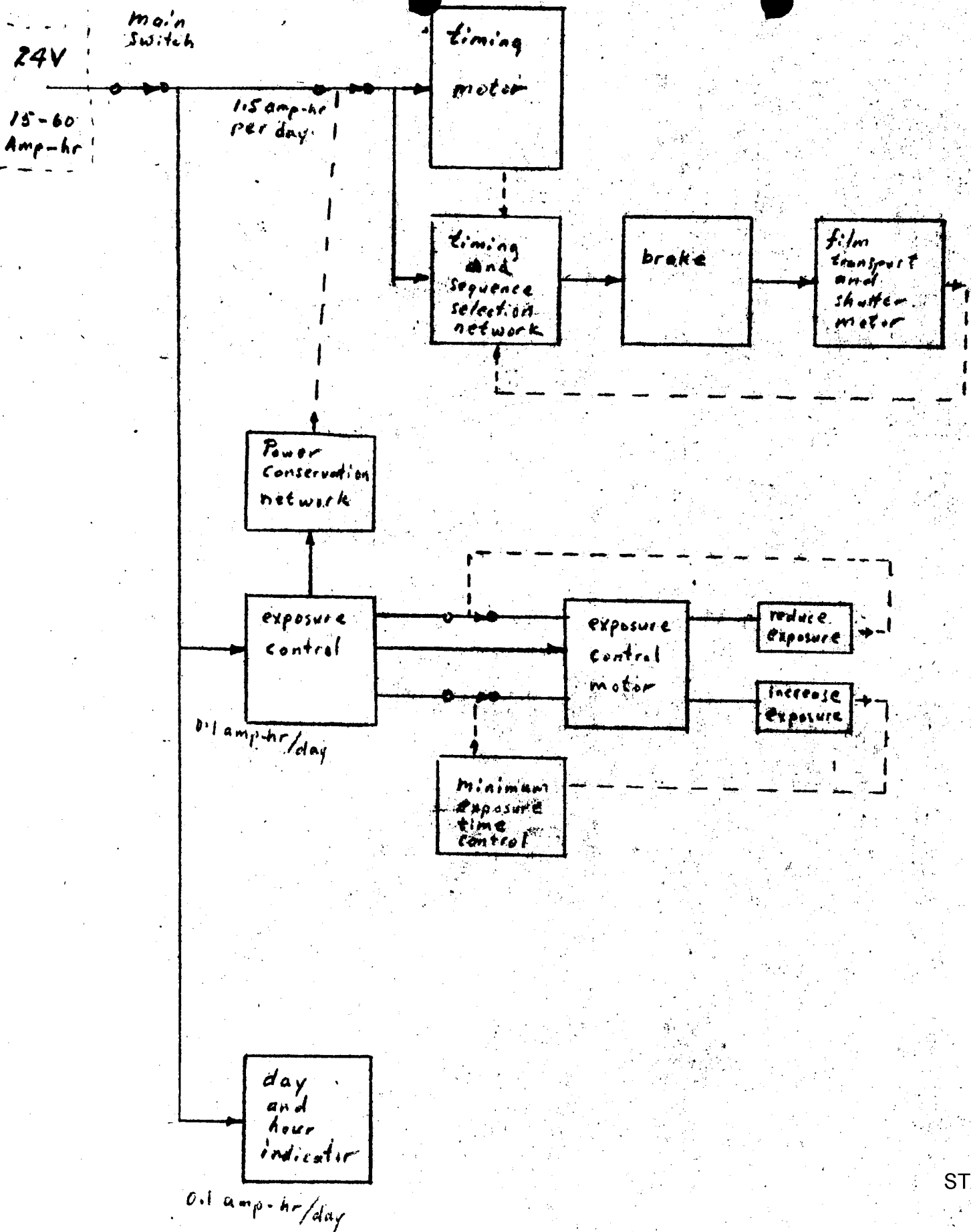
F	f	S	H	HS	H-S	S+H	D _F	D _N	D
1"	2.4	15	17.3	360	2.3	32.3	113	8	121
2"	2.3	30	72	2840	42	102	51.5	21.6	73
4"	2.3	60	289	17000	229	349	76	50	126
6"	2.7	120	564	63900	434	674	199	99	298
12"	4.5	240	1330	300000	1090	1570	293	203	496
18"	5.6	360	2400	765000	2040	2760	424	313	737
24"	5.6	480	4270	2040000	3790	4750	543	434	977



Automatic Exposure Control Circuit Diagram

STAT

10-23-57



STAT

CD-182 System Block Diagram

STAT

Nº 7838

TO:

DATE: 10-17-57

STAT

CD-182 Battery Recommendation

A. Requirements

1. 100 ma. continuous operation 15 hr./day
2. 900 ma 1-sec duration 800 time per day
3. 24 V. with center tap
- 4 continuous operation unattended for 15 days

B. Type of cell that may satisfy the needed.

	HR-15	LR-20	LR-40
Days of operation	9.4	12.5	25
cost (15 cells)	\$480	\$480	\$640
volume, in ³ /cell	9.25	15.18	32.52
wt. , oz/cell	9.7	13.2	22.6

C. Recommendation

For stationary operations capacity is more important than volume and weight. LR-20 is recommended over HR-15 since for the same cost LR-20 provides 30% more capacity.

If the capacity of LR-20 is not sufficient to meet the mission requirements LR-40 may be satisfactory.